Appendix B. Land Protection Plan



USFWS

 $Aerial\ view\ of\ Blackwater\ NWR\ marshes$



United States Department of the Interior

FISH AND WILDLIFE SERVICE

300 Westgate Center Drive Hadley, MA 01035-9589

In Reply Refer To: FWS/Region 5/NWRS



JUN 13 2006

Memorandum

To:

Director

From:

Regional Director, Region 5

Subject:

Chesapeake Marshlands National Wildlife Refuge Complex Land Protection

Proposal

Thank you for the opportunity to meet with you and others on May 24, 2006, on the Land Protection Proposal (LPP) to expand the acquisition boundary of Blackwater National Wildlife Refuge (NWR), including the addition of a new Nanticoke Division. This LPP has been considered within the context of the draft Comprehensive Conservation Plan (CCP) for Chesapeake Marshlands NWR Complex, which has been reviewed by the public. We received positive comments from the public on the proposal.

As Refuge Manager Glenn Carowan highlighted during his presentation, land protection efforts at the complex are a priority for Region 5, and we are prepared to dedicate necessary resources to this effort within prescribed budgets. For over 14 years, the U.S. Fish and Wildlife Service has been a part of a large and diverse partnership planning effort leading up to the proposed LPP. We are convinced these expansions will significantly contribute to strategic growth of the National Wildlife Refuge System, while also fulfilling our intentions with partners to jointly conserve important habitats on the Delmarva peninsula. The Maryland forest industry is encouraged that we aim to protect habitats from development and, when appropriate, we will work with that industry for needed silvicultural operations to meet habitat objectives. Conservation and management activities on these new lands are expected to contribute significantly to the recovery of the Delmarva fox squirrel.

We are prepared to modify land protection activities identified in the LPP to assure that the Service assumes a highly cooperative and collaborative approach, namely, to not use fee-title in the proposed Nanticoke Division, but emphasize conservation agreements, memoranda of agreement, management agreements, and the like. For the Blackwater NWR area, we believe the use of fee-title is an appropriate and useful tool, although we certainly will use non-fee-title alternatives where appropriate.

We plan to take full advantage of any and all available funding sources to implement the LPP, and not rely solely on Land and Water Conservation Funds. North American Wetlands Conservation Act grants have been used at the refuge before, which are ideally suited for partnership efforts of this type, as are Migratory Bird Conservation Funds. We will also be able to take advantage of land donations.

The CCP for Chesapeake Marshlands NWR Complex is due to be completed this summer to help meet the 2012 deadline for all CCPs. We would very much appreciate your approval of the LPP. If you have any questions regarding this matter, please contact Anthony D. Léger, Regional Chief, National Wildlife Refuge System, at 413–253–8550.

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| Not Approved: | | Date | | |

I. Introduction and Purpose

The U.S. Fish and Wildlife Service prepares its land protection plans to inform the public about Service proposals to protect land, and how that may affect them; provide opportunities for public input and, more specifically, for landowners' comments, if they desire; and, confirm for landowners our interest in protecting their lands by various methods. The National Environmental Policy Act (NEPA) gives all interested parties the opportunity to express their viewpoints and concerns about proposed federal actions. Our planning process provides comment periods for landowners, local officials, and the public to suggest other alternatives or additional lands for protection.

This land protection plan (LPP) outlines our actions to meet the habitat objectives of our management goals, objectives, and strategies in the Chesapeake Marshlands National Wildlife Refuge Complex (Complex) draft Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA). Our LPP addresses two areas: the Blackwater refuge and the Nanticoke River corridor. Figure B.1, "Current and proposed protected areas," below, outlines the Blackwater refuge protection areas in red and the Nanticoke River protection areas in orange. We also identify our acquisition and land protection priorities and the boundaries for both areas in relation to other state and private conservation lands. This LPP will guide our future actions in protecting the wildlife resources and ecological integrity of the Blackwater National Wildlife Refuge (NWR) and its proposed expansion eastward along the Nanticoke River.

This LPP does not diminish the rights of any landowner; nor does it constitute an offer to purchase land or any interest in land. The Service is only one agency among state natural resource agencies and private partners in a comprehensive, coordinated protection strategy. All of the partners can work within their own policies, procedures, and time frames for protecting habitat. That approach also gives landowners their choice among the methods for protecting their lands and the agencies with which to negotiate. Any Service fee title purchase will be subject to normal constraints, such as the type and availability of funds and the willingness of landowners to negotiate with us. We will provide landowners with copies of this plan to inform them about Service policies, priorities, and the protection methods we are considering. We will revise the final CCP and this LPP periodically, based first on the public comments we receive and later, on our evaluations of our progress in achieving their goals, but no less often than once every 15 years.

II. Project Area Description

The State of Maryland Governor's Initiative to aid the cleanup and protection of Chesapeake Bay defines the Blackwater and Nanticoke watersheds as priority areas. The Blackwater/Fishing Bay/Nanticoke wetland complex is the largest in the state, and possibly, the largest contiguous assemblage in the Chesapeake Bay. It provides habitat crucial for the survival of more than 270 rare, threatened, or endangered species. Twenty-five of those are considered globally rare. Sixty-eight percent of the wetland habitat types now being protected are decreasing.

The refuge complex comprises these refuges and their divisions in Dorchester, Somerset, and Hartford counties, Maryland, and Accomack County, Virginia: the Blackwater refuge, Susquehanna refuge, Martin refuge, and the Barren Island, Watts Island, and Bishops Head divisions, including Spring Island. This LPP focuses on land in the study areas of the preliminary project proposals for the boundary expansion of the refuge and its eastward expansion to include the Nanticoke River study area approved by our Director in July 1995.

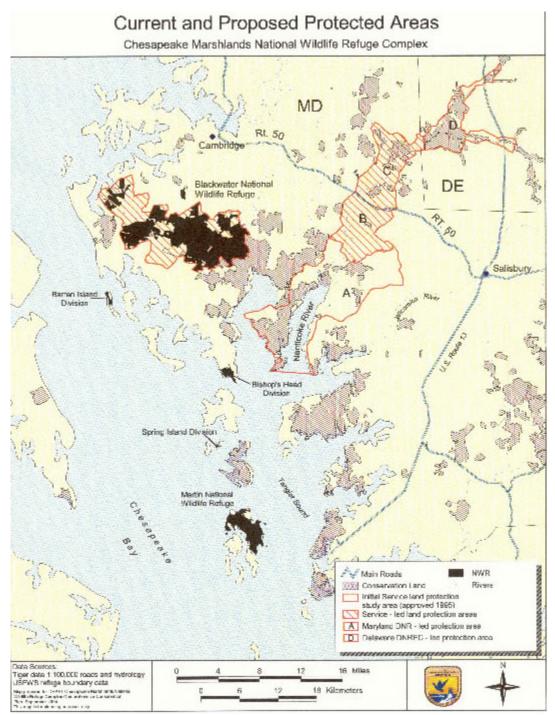


Figure B.1. Current and proposed protected areas

Blackwater NWR is strategically located in southern Dorchester County, Maryland. Originally authorized for establishment as a waterfowl sanctuary by the Migratory Bird Conversation Commission on December 3, 1931, the Blackwater refuge was not officially established until January 23, 1933, when we acquired 8,240.99 acres in fee title from the Delmarvia Fur Farms and two other properties. The refuge is important primarily as migrating and wintering habitat for waterfowl, and is also one of the bay's most productive estuarine assets, supporting diverse aquatic and emergent plant communities. Those plant communities provide critical habitat for small fish, crabs and young seed oysters.

In 1993, the RAMSAR Convention designated the Blackwater refuge a "Wetlands Complex of International Importance" for waterfowl. It consists primarily of brackish marsh and forested swamp, both declining wetland types. Tidal and non-tidal freshwater wetlands and upland islands are other habitat types. Today, the approved boundary of the refuge encompasses 29,389 acres. Twenty inholdings [parcels that remain unacquired within its existing, approved boundary (see figure B.2)], total 3,864.75 acres. We will pursue their protection by all the strategies available in section VII, "Land Protection and Acquisition Methods."

More recently, the refuge became very important in the recovery of federal-listed threatened bald eagle and endangered Delmarva fox squirrel. Its forest, dominated by loblolly pine and deciduous stands, supports the nation's largest naturally occurring concentration of the squirrels, and provides unique habitat for a variety of migratory birds, including Neotropical species. We also regularly demonstrate for the public many refuge activities for resolving problems in the bay ecosystem because of the quality of refuge programs and facilities, the abundance and diversity of its wildlife populations and habitat types, and its proximity to Washington, D.C. and Baltimore, MD.

The refuge also provides important habitat for one or more life cycles of eight anadromous fish species and nine estuarine interjurisdictional species. Federal trust species include the shortnose sturgeon, Atlantic sturgeon, American shad, hickory shad, Atlantic croaker, Atlantic menhaden, alewife, striped bass, American eel, and blueback herring. The populations of five of those species are decreasing. Refuge waters also provide the most important soft crab and peeler crab production area in Chesapeake Bay and the second most significant nursery for blue crab larvae.

The proposed Nanticoke River watershed expansion area is located in Dorchester, Caroline, and Wicomico Counties, Maryland. The area was originally approved as a new refuge in July 1994, but later was revised, complexed with Blackwater, and subsequently approved in 1995.

One of the last relatively pristine, major watersheds on Maryland's lower southwestern Eastern Shore, the Nanticoke River watershed comprises low-lying marshlands, wooded swamps, floodplain forests, loblolly pines and floodplain agricultural fields. The whole project area contains 96,000 acres of tidal and nontidal marshes, wooded swamps, and a third of all of Maryland's tidal wetlands. It is the least developed segment of a major river valley in the state, and harbors the largest unbroken pine forest on the Delmarva peninsula.

The Nanticoke River is an "ERES" or Exceptional Recreational and Ecological Resource. It serves as a major spawning and nursery habitat for striped bass and other important anadromous fish species, including alewives and blueback herring. Because of its undeveloped nature, it is listed on the Nationwide Rivers Inventory. It provides an essential wintering area for black and canvasback ducks. Its habitat types also support active bald eagle nesting sites, and are suitable for the recovery of the Delmarva fox squirrel population. Recognized for its biological diversity, this expansion area includes the largest concentration of nesting bald eagles north of Florida on the Atlantic Coast.

Protecting land along the Nanticoke River would contribute to the resource conservation of a variety of international, national, and regional initiatives, including RAMSAR, IBA, NAWMP and the "National Wetlands Priority Conservation Plan." That river is listed in our "Emergency Wetlands Resources Act Regional Concept Plan" (USFWS), and is a landscape project supported by The Chesapeake Bay Estuary Program. Protecting that land also supports the objectives of the "Management Plan for Canada Geese in Maryland" and the "Chesapeake Bay Waterfowl Policy and Management Plan," and complements the Chesapeake Bay Foundation Save The Bay's Lands Program. Our proposal area is located in both the Delaware and Maryland portions of the Atlantic Joint Venture Area.

The Nature Conservancy has designated the land in the river protection area as a Bioreserve and a "Last Great Place." They developed the "Nanticoke River Bioreserve Strategic Plan" (1998), which outlines the biological significance of the watershed and its threats. More than 23 Natural Heritage Sites lie within the project. Protecting and improving habitat on the Eastern Shore are also critical steps in the North

American Waterfowl Management Plan, which specifically recommends the protection of 53,500 acres and the improvement of an additional 5,000 acres in the Blackwater—Nanticoke protection area.

III. Refuge Land Acquisition Program and Policies

The Service follows a long-standing policy of working with private landowners, using a wide variety of land protection strategies that include conservation easements and management agreements. We negotiate only with willing sellers. Our inclusion of any privately owned land within an approved land protection boundary does not mean that its owner must sell to the Service. Privately owned land remains in the control of its owner. Our boundary identifies important resource areas of interest to the Service, is based primarily on the biological value of an area and its wildlife habitats rather than on land ownership patterns, and gives us the acquisition approval necessary before we can negotiate with any willing sellers.

Once our CCP and LPP have gone through the NEPA public review process and have been approved, we will ask all of the landowners in the approved protection boundary whether they are interested in selling their land. If they are, then a professional real estate appraiser will appraise their properties to determine the market value. Federal law requires us to offer fair market value for land, based on its highest and best legal use. We review each appraisal to ensure that the price it offers accurately reflects the selling prices of comparable properties in the vicinity.

Conservation easements and cooperative management agreements will also be available, if landowners so choose. We strive to minimize or eliminate any adverse impacts on landowners. Therefore, we also pay for title search, mortgage pre-payment penalties, mortgage releases, boundary surveys, deed recordings, relocation and moving costs, if applicable, and other expenses incidental to the transfer of title.

Concepts for the Refuge Land Acquisition Program

The Service establishes new national wildlife refuges and expands existing refuge boundaries to fulfill the mission of the National Wildlife Refuge System and the purposes of the refuges in that system. We acquire land only when other means of achieving program goals and objectives, such as zoning or regulation, are not appropriate, available, or effective. We also acquire the minimum interest necessary to reach management objectives. Alternatives to fee title (full) ownership by the Service include conservation easements, leases, and life-use reservations. If fee title purchase is required, we will fully consider extended use reservations, exchanges, or other alternatives that will lessen any impact on willing sellers or their communities.

Land Acquisition Authority

We cannot purchase any land unless a federal law authorizes such a purchase. These laws authorize us to buy land.

- The Migratory Bird Conservation Act of 1929, as amended, "for use as an inviolate sanctuary, or for any other management purpose, for migratory birds."
- The Migratory Bird Hunting and Conservation Stamp Tax of 1934, as amended, "as Waterfowl Production Areas" subject to "all the provisions of such Act (Migratory Bird Conservation Act) ...except the inviolate sanctuary provisions..."
- The Fish and Wildlife Coordination Act of 1934, as amended, "shall be administered by him (Secretary of the Interior), directly or in accordance with cooperative agreements...and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon,"

- The Fish and Wildlife Act of 1956, as amended,(1). "... for the development, advancement, management, conservation, and protection of fish and wildlife resources...," (2). "...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if such terms are deemed by the Secretary to be in accordance with law and compatible with the purpose for which acceptance is sought."
- Refuge Recreation Act of 1962, as amended, for one or more of the following the purposes: "(1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species"..." the Secretary ...may accept and use...donations of...real...property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors...."
- Wilderness Act of 1964, as amended, the purpose of the acquisition is: "wilderness areas...shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness...."
- Endangered Species Act of 1973, as amended, "to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants...."
- Emergency Wetlands Resources Act of 1986, "the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..."
- North American Wetlands Conservation Act of 1989, (1) to protect, enhance, restore, and manage an appropriate distribution and diversity of wetland ecosystems and other habitats for migratory birds and other fish and wildlife in North America; (2) to maintain current or improved distributions of migratory bird populations; and (3) to sustain an abundance of waterfowl and other migratory birds consistent with the goals of the North American Waterfowl management Plan and the international obligations contained in the migratory bird treaties and conventions and other agreements with Canada, Mexico, and other countries.
- An Act Authorizing the Transfer of Certain Real Property for Wildlife, or Other Purposes, as amended. Land also may be acquired for its "particular value in carrying out the national migratory bird management program."

Funding for Land Acquisition

Funds for the acquisition of national wildlife refuge land or interests in land derive primarily from the Land and Water Conservation Act and the Migratory Bird Conservation Act. Funding for the Migratory Bird Conservation Act comes primarily from the sale of Federal Duck Stamps. The Land and Water Conservation Act funds are composed of certain user fees, proceeds from the disposal of surplus federal property, the federal tax on motorboat fuel, and oil and gas lease revenues. About 80 percent to 90 percent of that fund now derives from Outer Continental Shelf oil and gas leases. The North American Wetlands Conservation Act also authorizes appropriations, and earmarks proceeds from certain migratory bird hunting violation fines and accrued interest from Pittman—Robertson Act funds to implement the North American Waterfowl Management Plan. Those are all dedicated funds whose dollars Congress mandates specifically for wetland and land acquisition and conservation.

IV. Threats to the Resource

In February 2003, the Chesapeake Bay Program Scientific and Technical Committee released its report "Chesapeake Futures: Choices for the 21st Century." Among its key findings, it states "the Bay watershed is on a trajectory to lose two million acres of farm and forest land to sprawl development by 2030." Sprawl is known to produce several times the amount of polluted runoff of forests, pastures, or even cluster developments.

Habitat alteration and destruction are among the imminent major threats for the Blackwater refuge and the Eastern Shore in general. Maryland has lost approximately 1.2 million acres of its historic wetlands: a 73-percent loss. The loss of coastal and estuarine wetlands adversely affects both wildlife and human populations. The destruction and degradation of forest by clearing land for agricultural use, the subsequent commercial and residential development or urban sprawl, the intrusion of salt water, and the runoff of herbicides, pesticides, and fertilizers pose increasing threats for watersheds and their wildlife resources. Other major problems are the loss of marsh and submerged aquatic vegetation to a combination of sea level rise, land subsidence, and erosion caused by nutria. Salt water intrusion into the Upper Blackwater River has become so acute that anadromous fish species and some freshwater fish species cannot spawn successfully.

The major threats to the Nanticoke River watershed are the draining of wetlands and the cutting of timber to convert land to agriculture. The silt and chemical runoff from farming and timbering operations can also heavily impact the water quality of the river. The continued loss of the already limited forest and wetland habitats on the Eastern Shore restrict the management effectiveness of the refuge complex and the long-term ecological health of the Chesapeake Bay as well. To counter those habitat losses, protection of habitats suitable for maintaining and enhancing the recovery of wildlife species populations and biodiversity is necessary. Land protection efforts will also help ensure the long-term protection of the water quality and ecological integrity of their watersheds.

V. Proposed Action

Our approved CCP and LPP will provide the opportunity to protect 31,314 acres by the most appropriate of the methods in section VII, "Land Protection and Acquisition Methods." Although we can manage land within refuge boundaries quite well, we cannot control the degree of threat to the refuge or the habitat resource outside our approved refuge boundary.

We have revised the LPP to include only protection measures other than fee-title acquisition for the Nanticoke Division of Blackwater NWR. The use of easements and management agreements, for example,

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is authorized for this division. Fee-title acquisition is authorized only for the boundary expansion contiguous to the existing Blackwater NWR.

Figure B.2. 1995 proposed expansion boundary

Normally we establish national wildlife refuges in areas of natural resources unique to the Service mission, collectively referred to as federal trust resources. Some examples are threatened or endangered species habitat, migratory bird habitat, nationally significant fisheries, or critically endangered and threatened ecosystems such as submerged aquatic vegetation or coastal marshland in the Chesapeake Bay.

When we have identified such an area, we define a focus area within which land can be transferred to us by fee title purchase, conservation easement, management agreement, or donation. Once land becomes part of a refuge, the refuge manager first posts it, and then develops a management plan to maintain and enhance its resource functions and values. That includes making the area more attractive to wildlife and determining appropriate, compatible, wildlife-dependent public uses.

Land protection is our principal strategy in achieving refuge complex management objectives for endangered and threatened species, migratory birds, Neotropical songbirds, and biodiversity. Our primary goal is to create the most complete network of protected land in the Chesapeake Bay watershed.

In the process of developing land protection strategies in our CCP and this LPP, we identified several specific goals and objectives that will require additional Service land protection: goals that not only will protect Service public trust resources, but also will accomplish the refuge complex recovery tasks and other national or regional goals and objectives. Thus, the Service will seek opportunities to conserve, manage, and protect land through a combination of acquiring land; easements; forging partnerships with adjoining landowners and land trusts; and, developing agreements with other entities having title or other land rights and interests in targeted areas of the watersheds. Twenty inholdings (parcels within the refuge boundary but not yet acquired) at Blackwater refuge total approximately 1,475 acres (see figure B.2, "1995 Approved Acquisition Boundary," below).

In July 1995, the Director approved a preliminary project proposal (PPP) enabling the refuge to study the likelihood of protecting an additional 17,500 acres at Blackwater refuge. Figure B. 2 shows that study area in vertical red lines. We have already acquired 2,186 of those acres by categorical exclusion. We will pursue

the protection of all the remaining inholdings, and prioritize the acquisition of forest land in or near the core areas that provide optimal breeding habitat for forest birds. We will continue our strategic land acquisition to reduce the patchiness of the existing forest and increase total forest acreage. We will continue to identify key land in the protection areas that will produce the largest strategic gains toward achieving our management goals and objectives outlined below.

Refuge management objectives that require additional land protection include

- providing sufficient habitat necessary to support breeding populations of 12 globally rare and regionally significant migratory birds;
- providing sufficient forest habitat necessary to delist the Delmarva fox squirrel and bald eagle;
- protecting and restoring regionally significant submerged aquatic vegetation (SAV) habitats;
- protecting and restoring the largest colonial and wading bird rookeries in the Bay; and
- implementing the recovery of globally rare and endangered species and habitat

The refuge complex, encompassing more than a third of the bay's tidal marshland in Maryland, plays a critical role in supporting the regionally renowned Chesapeake Bay Watershed partnership and protecting the diversity of living resources that the Chesapeake 2000 Agreement was developed to protect. In a regional context, the refuge complex, the bay's living resources, and the importance of protecting its entire natural system are interconnected. Thus, we coordinate management actions on the refuge complex with achieving the following goals of that agreement throughout the region.

- 1. Restoring, enhancing, and protecting the finfish, shellfish, and other living resources, their habitats and ecological relationships to sustain all fisheries and provide for a balanced ecosystem;
- 2. Preserving, protecting, and restoring those habitats and natural areas vital to the survival and diversity of the living resources of the Bay and its rivers;
- 3. Achieving and maintaining water quality necessary to support the aquatic living resources of the Bay and its tributaries and to protect human health;
- 4. Developing, promoting, and achieving sound land use practices which protect and restore watershed resources and water quality, maintain reduced pollutant loading for the Bay and its tributaries, and restore and preserve aquatic living resources; and
- 5. Promoting individual stewardship and assisting individuals, community based organizations, local government and schools to undertake initiatives to achieve the goals and commitments of the agreement.

The proposed eastern Nanticoke River expansion area encompasses approximately 16,000 acres. Our original focus area encompassed 96,000 acres. However, during many years of scoping meetings with our state and NGO partners, we divided the Nanticoke River protection area into the four separate sections or zones shown below in figure B.3, "Nanticoke River Land Conservation Focus Area."

State of Delaware is assigned the upper reaches or section D, and the State of Maryland section A in the lower reaches of the river adjacent to the Fishing Bay Wildlife Management Area. The Service, The Nature Conservancy, and The Conservation Fund will concentrate on two major protection areas, B and C, located north and south of U.S. Route 50 (see figure B.3).

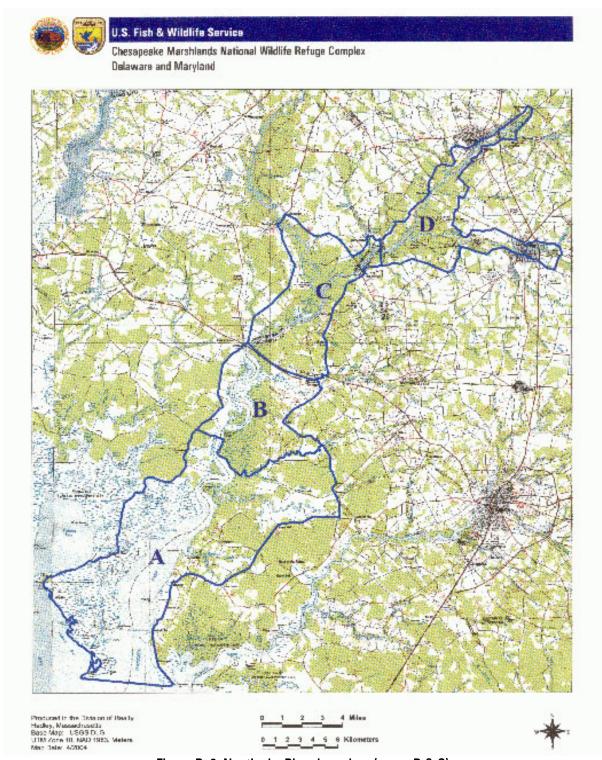


Figure B. 3. Nanticoke River boundary (areas B & C)

Those two areas encompass 32,000 acres of upland and wetland habitat. We will use easements, and memorandums of understanding to protect that important land. We will not use fee title acquisition in the Nanticoke expansion area.

This LPP, in addition to enhancing refuge management objectives, will further develop landscape linkages among Service land and state wildlife management areas. Several smaller, disjunct units of conservation

land also located in the vicinity of the refuge are managed by the state or private conservation organizations, e.g., the Chesapeake Bay Foundation, Audubon, or the Maryland Environmental Trust Program. Thus, the potential for additional landscape linkages and partnerships is very high.

VI. Protection Options Considered

The draft CCP/EA evaluated protection options for these three management alternatives.

Alternative A. No Action or Current Management

Alternative A would not involve the Service in new expansion at the Nanticoke River or the Blackwater refuge. The present refuge boundary would remain unchanged. We would pursue opportunities as they arise to acquire the 1,475 acres of inholdings within that boundary from willing sellers. Land around the refuge would remain in private ownership, and remain subject to development. Those opportunities to restore or enhance habitat would be lost or restricted. We would not plan any concerted expansion of our land protection, although some easements or donations from state agencies or not-for-profit conservation organizations would still be possible.

Alternative B. Conservation Biology for Trust Species Diversity (Preferred Alternative)

Alternative B would enable the Service to pursue the protection of the land immediately surrounding the Blackwater refuge: the 17,500 acres approved in our 1995 PPP, of which we have already acquired 2,186 acres by categorical exclusion. We will continue to identify key land within the protection area that would produce the largest strategic gains toward achieving the management goals and objectives in the draft CCP. We would prioritize the acquisition of forest land in or near the forest cores that provide optimal breeding habitat for forest birds, and acquire inholdings from willing sellers as opportunities arise. We would start to protect the 16,000 acres described in the approved PPP for the Nanticoke River watershed, and continue to assist our partners in developing a landscape protection plan for the region.

Alternative C. Maximum Public Use with No Habitat Management

The primary objective in alternative C is to protect the 31,314 acres identified in alternative B and approved for consideration as an expansion area in the 1995 PPP. We would continue to assist partners in developing a landscape protection plan and the "Delmarva Conservation Corridor Plan," participate in implementing the "Chesapeake 2000 Agreement," and work with local, state and regional government acquisition and easement initiatives on strategic partnerships to coordinate and maximize land acquisition and protection.

Acquisition and Management by Others

Our land protection would depend on the land acquisition and management interests and capabilities of other state resource agencies and non-governmental conservation organizations: e.g., the Trust for Public Land, Audubon, The Nature Conservancy, The Conservation Fund, Eastern Shore Conservation Trust, and Chesapeake Bay Foundation. However, private organizations generally have limited interest or capabilities in owning and managing land on a long-term basis. Nevertheless, they assist the Service and other agencies at times by acting as interim owners, holding the land until government acquisition funding has been approved. The Maryland Agricultural Lands Preservation Foundation and the State Heritage Program protect farmland and ecologically significant areas, respectively. However, agricultural easements do not provide permanent protection unless that land is placed in an agricultural district. In 2001, the Chesapeake Bay Foundation announced a Nanticoke watershed initiative for working with communities along the river to restore degraded wetlands and riparian buffers and conduct education and outreach to promote environmental awareness and support for project assistance.

VII. Land Protection and Acquisition Methods

The Secretary of the Interior is authorized to acquire full or partial interests in land by direct purchase, donation, exchange, cooperative agreement or permit, lease, or transfer. The same methods are also available to private, non-governmental conservation organizations. Those methods provide the land conservation organizations and the landowners the flexibility needed to maximize conservation benefits. A brief description of each method follows.

Purchase, or Fee-title or Fee-Simple Acquisition

Our policy is to acquire land only when other such means as zoning or regulation for achieving program goals and objectives are not appropriate, available, or effective. When we acquire land, the minimum interest necessary to reach management objectives is to be acquired or retained. If fee title purchase is required, we give full consideration to extended use reservations, exchanges, or other alternatives that will lessen any impact on the owner and the community. Donations of desired lands or interests will be encouraged [cf. 341 FW 1].

Conservation Easements

This method allows land to remain in private ownership while the Service controls its management. An easement is voluntary: the landowner retains the deed, less some specific rights. To meet the refuge goal of providing long-term protection for biological resources, any conservation easement the Service acquires must (1) preclude the destruction or degradation of habitat, and (2) allow the Service to adequately manage the use of the land. Usually, that means the purchase of development rights of the property in perpetuity. Easement transactions are recorded in the deed.

We will use conservation easements when they are cost-effective, or when owners do not wish to sell in fee title. The purchase of development rights generally costs 70 percent to 80 percent of the amount to purchase the land.

Once purchased, an easement is a legal restriction on the use of a property, and is binding even if its ownership changes. For that reason, conservation easements generally decrease the value of land and decrease tax revenue. Under the Tax Deductions for Conservation Easements Act [26 U.S.C. 170; Section 6 of P.L. 96–541 (1980)], a taxpayer may take a deduction for contributing a "qualified real property interest" to a charitable organization exclusively for conservation purposes protected in perpetuity. IRS regulations define the value of an easement as the difference between the market value of the land as it is and the market value of the land as encumbered by the specific terms or provisions of an easement. It is not the difference between its worth if developed and its worth if development rights are voluntarily limited.

When the donor retains the mineral interest in the land, in no case may the minerals be extracted by surface mining methods. It should be understood that the acquisition of development rights would meet only some but not all of the purposes for which the refuge was established. Numerous other land uses, such as clear-cutting, applying pesticides, and constructing roads, could still be allowed, but would conflict with many refuge purposes and goals. Some examples of typical restrictions that can be negotiated in conservation easements follow.

Development Rights.—Both commercial and residential development rights, all types of surface disturbance, including sand and gravel mining, the construction of buildings or roads, pipelines, power lines, or other infrastructure.

Disturbance of Vegetation.—Clearing or burning any vegetation, including logging or clear-cutting, or other activities such as grazing, impounding water, applying herbicides or other chemicals, and agricultural operations or other practices that could impact vegetation or wildlife.

Excessive Public Use.—A prohibition on human use and activity at times and in places where they may disturb wildlife or habitat.

Water Quality and Quantity Protection.—The use of water, the placement of wells or impoundments, use of chemicals, or other uses that adversely impact or alter natural water levels, quality or quantity.

Landowner compensation for conservation easements is usually a one-time, up-front payment based on a percentage of the appraised fair market value of the land. It will vary according to the restrictions imposed or rights granted to the Service. Easement properties often are more difficult for the Service to administer than fee-title properties because of their additional monitoring, coordination, and administrative requirements. The Maryland DNR and Farmland Preservation Program have used agricultural and conservation easements.

Donation

A citizen or private organization may donate land or an interest in land to the Service for conservation purposes. Aside from the cost factor, these acquisitions are no different than purchases. Donated land would be appraised for tax purposes. The owner is entitled to a tax deduction based on the appraised value of that property.

Exchange

The exchange of public land for private land is authorized by the Federal Land Policy and Management Act, the Fish and Wildlife Act, and the National Wildlife Refuge System Administration Act. The first allows for the withdrawal of land from the public domain. Inherent in the exchange concept is the requirement to get dollar value for dollar value. Exchanges are attractive because they usually do not require funds for purchase or increase federal land holdings. However, completing those transactions can be very labor intensive and time consuming.

Transfer

The Federal Property and Administrative Services Act authorizes the transfer of excess real property from other federal agencies to the Department of Interior and into the Refuge System. The Transfer of Certain Real Property for Wildlife Conservation Purposes Act (16 U.S. C. 667b-667d)—The Act of May 19, 1948, as amended, provides that, upon a determination by the Administrator of the General Services Administration, real property no longer needed by a federal agency can be transferred without reimbursement to the Secretary of the Interior if the land has particular value for migratory birds, or to a state agency for other wildlife conservation purposes. Many recent military base closures have transferred excess land into the Refuge System. For example, the U.S. Coast Guard has transferred excess land to the Service for inclusion within several of our national wildlife refuges.

Cooperative Agreement or Permit

Sometimes, the Service will enter into a Memorandum of Understanding or cooperative management agreement that allows us the right to manage the land according to the principles of wildlife management. Certain permitted rights allow the Service to carry out its functions and responsibilities regarding the protection of our nation's wildlife resources.

Lease

A written instrument whereby the possession of land and/or an improvement is given by its owner to another person or agency for a specific period (usually 5 to 10 years), according to specific conditions, and for a specific rent. The rights revert to the owner at the termination of the lease. The property remains on the tax rolls during the term of the lease.

This method does not offer permanent, long-term protection, and is generally not cost-effective, because of its limitations on use and the amounts of funding available. For that reason, we dismissed this option from further consideration. However, we can promote and facilitate habitat restoration programs offered by the Natural Resources Conservation Service, the Farm Services Administration, and our own Partners for Wildlife Program within our project area. The refuge will assist interested landowners with such programs as the Conservation Reserve Program and Wetland Reserve Program, which provide funding, materials and technical assistance to restore permanent riparian buffers and other vegetated habitats.

The Service does not have to purchase specific tracts within a rigid time frame. We purchase land from willing sellers as funds become available. However, we can accept donations of land or easements at any time.

VIII. Coordination

We developed this proposal in cooperation with the Maryland DNR, Delaware Department of Natural Resources and Environmental Control, The Nature Conservancy, The Conservation Fund, Chesapeake Bay Foundation, and local and regional land trusts.

On July 14, 1994, refuge staff and the Maryland Department of Natural Resources co-hosted the first long-range partnership planning meeting to begin defining the role of the Service as a partner with others in protecting natural resources in the Blackwater River and Nanticoke River watersheds.

On July 25, 1995, we received approval from our Washington Office to begin detailed planning to protect federal trust resources within those watersheds, including the Chesapeake Island Refuges, and to establish what we then called the "Nanticoke River Unit" of the Blackwater refuge, now the Nanticoke protection area. That approval launched one of the most extensive collaborations ever among the Service, refuge partners, and the public in the Northeast Region to identify and protect valuable ecosystem resources.

On March 14, 1996, the first meeting of watershed partners convened at Blackwater refuge. The participants included representatives from The Nature Conservancy, The Conservation Fund, the Maryland Department of Natural Resources, the Eastern Shore Land Conservancy, the Lower Shore Land Trust, and our Land Acquisition Biologist, Chief of Realty, and Geographic Assistant Regional Director. Subsequently, seven additional intra- and interagency meetings in 1996 and 1997 identified trust resources in the watershed and defined the future role of the Service and the Refuge System in their protection. The signing into law of the National Wildlife Refuge System Improvement Act on October 9, 1997, ushered in a new phase of that refuge planning: comprehensive conservation plans (CCPs). In April and May 1998, additional public input obtained at 20 public scoping meetings and open houses helped guide our refuge management planning process.

The refuge complex programs enjoy tremendous popular and political support. Partnerships have developed in many ways, in every arena of refuge management, including land conservation. Our partnership opportunities now encompass 44 agencies and organizations, providing exceptional opportunities to connect land acquired in the Nanticoke River protection area with existing public holdings. This LPP complements the commitment of the Chesapeake Bay Commission (2001) to "permanently preserve from development 20 percent of the land in the watershed by 2010."

IX. Socioeconomic and Cultural Impacts

We expect no significant adverse socioeconomic or cultural impacts from our proposed land protection and acquisition. Those counties and towns will benefit from increased refuge revenue sharing payments, increased property values, increased watershed protection, increased revenues for local businesses from refuge staff and visitors, savings on the cost of community services, and the maintenance of scenic values, open space, rural character and sense of place.

Blackwater refuge is the largest tourist attraction in Dorchester County, generating a reported \$15 million annually from ecotourism. Its attraction is based on the abundance of waterfowl, eagles, and other waterbirds and wildlife that tourists can readily observe, study, or photograph. Very few places provide the same opportunity as our Wildlife Drive for enjoying those priority public uses. Other, less obvious sociological benefits, such as the aesthetic benefits of watching a flock of 20,000 waterfowl against a setting sun over the bay, arise from knowing that places are still available where wild creatures can remain wild and free with their life needs properly satisfied.

We will continue to promote the six priority, wildlife-dependent, recreational uses of the Refuge System, including hunting, fishing, wildlife observation and photography, and environmental education and interpretation, where they are compatible with the management purposes of each refuge. The refuge now has a deer hunting program, wildlife trail system, wildlife observation sites, and an environmental education program and stations. The visitor center at Blackwater NWR is undergoing significant expansion, and a new visitor contact station is proposed for Route 50 near the Nanticoke River. Opportunities for appropriate public access and wildlife-dependent uses will expand to our newly acquired land.

The natural resources of the Chesapeake Bay and waters around and within the refuge complex contribute substantially to the economic health of the State of Maryland and the Nation. Protecting, restoring and enhancing those habitats will provide opportunities to support, maintain or even restore over the long term the economic vitality of the region and the quality of life for residents and visitors alike. Land and water conservation will also provide for the continuation of the cultural heritage of Maryland's watermen by generating an estimated \$275 million in direct expenditures for recreational fishing and \$1 billion in expenditures and 18,000 jobs related to Chesapeake Bay boating.

The Dorchester County Department of Tourism estimates that Blackwater refuge visitors annually spend \$15 million in the county, and have a tremendous impact on local restaurants, hotels, retail merchants and other businesses. About 10 percent of all Dorchester County residents derive their income from jobs related to natural resources that are affected directly or indirectly by the refuge. Both Dorchester and Wicomico counties will realize additional economic benefits from the additional public use outlined in the final CCP. The present and future staffing and operational budget of the refuge complex will contribute significantly to the local economy in the purchase of goods and services.

Land protection, particularly by the purchase of fee title or conservation easements, is unlikely to adversely affect land values in the county or the region. The demand for residential living, employment, or retirement opportunities in the region will continue with or without the additional acreage enrolled in the land protection strategy our plan envisions. When we draw project boundaries, we avoid structures, which we rarely purchase. Therefore, most of a community's real property value remains on its tax rolls after we have completed our land acquisition.

The refuge complex contributes to the economy of its neighboring counties by keeping land in permanent open space. Numerous studies throughout the continental United States have documented that benefit. The benefits of open space have also been documented in "Cost of Community Services Study (COCS)" for Northampton County, Virginia (Adams, et al. 1999) and in a similar, more recent study by the American Farmland Trust, "Cost of Community Services: Making the Case for Conservation" (2002), which analyzes 15 years of COCS studies around the country. Those involve 20 states from New England to Washington

State, and include Carroll, Cecil, and Frederick counties, Maryland. A COCS is a case study analysis of the net fiscal impacts of different land uses. The studies are based on real budgets for specific communities. Their analysis shows what services private residents receive in return for the local taxes they pay.

Those studies repeatedly have shown that open space costs towns less than residential or commercial development, because such development requires certain town services, including schools, utilities, police and fire, emergency services, and solid waste removal. Although residential and commercial development increases the tax base, the expenses the town incurs in providing increased services far outweigh the taxes that development generates. That scenario generally leads to significant property tax increases, which subsequently place an additional tax burden on low- and fixed-income households. Federally owned land demands few services, only minimal road care, and makes an attractive neighbor.

The reduction in developable land may cause the values of similar properties outside the protection areas to increase marginally, as a relatively smaller supply of vacant land will have to satisfy the same level of demand. However, any change will be gradual, because our land acquisition is based on willing sellers and uncertain annual funding appropriations. Other elements of our land protection strategy will provide economic and regulatory incentives to landowners interested in retaining the conservation value of their land, or retaining it in a wildlife-compatible economic enterprise. Some landowners may wish to parcel areas of their land where conservation programs apply and omit other areas; that is their prerogative. We expect that to represent only a small percentage of the land available in the protection areas.

Therefore, we do not expect property values to change significantly inside the protection area. Any land the Service acquires in fee ownership would be removed from the local tax rolls.

To offset that fiscal impact, the Refuge Revenue Sharing Act of 1935, as amended in 1978, provides for payments to offset the loss of tax revenues. Refuge revenue sharing payments for the counties compare favorably with or exceed current tax rates. Each county's payment is based on one of the following formulas, whichever is greatest: 75 cents per acre; three-quarters of 1 percent of the fair market value, or 25 percent of the net receipts collected from the land we own in fee title in that county. Congress may appropriate the funds necessary to offset the difference between the net receipts available and the amount due to the units of local government. The amount of payments on land now classified for agricultural and timber could range from 40 percent to 60 percent higher than the actual taxes now assessed. We reappraise land subject to refuge revenue sharing every 5 years, to keep current its fair market value.

Refuge revenue sharing does not apply to less-than-fee acquisition or conservation easements. However, conservation easements offer their own tax advantages: (a) they reduce estate taxes (reducing the value of the land by selling or donating development rights automatically cuts estate taxes); (b) they obtain current income tax deductions for at least a portion of the value of the gift; and (c) their lower land value results in lower annual real estate or property taxes. To secure a current income tax deduction, an easement gift must be for conservation purposes, and the land has to have some significant conservation qualities. A conservation easement is usually deductible up to a maximum of 30 percent of a taxpayer's adjusted gross income. Any conservation easement must preclude the destruction or degradation of habitat and allow refuge staff to adequately manage the uses of the area to benefit wildlife.

Cumulative, long-term benefits that would result from Service land protection include the

- Maintenance of the rural character of the region and sense of place
- Contributions to the local and regional economy from expenditures relating to the operation and management of the refuge complex and from expenditures by refuge visitor for goods and services in the local area.
- Contributions to the protection of the Chesapeake Bay ecosystems and watersheds of the

Nanticoke and Blackwater Rivers

- Maintenance of wetland functions such as food production, recharge areas and flood protection
- Protection of endangered, threatened and rare species, especially the American bald eagle and the Delmarva fox squirrel
- Protection of waterfowl species, waterbirds, and other species of special concern that depend on these wetlands

Refuge land protection would increase the protection of cultural resources in the area. The owners of land under private ownership in the protection areas are responsible for protecting and preserving its cultural resources. Residential and commercial development may destroy archeological artifacts, historical data, and research opportunities. Research investigations on private land may be discontinued at any time at the discretion of its owner. Conversely, our land protection and acquisition strategy will enhance cultural and historic resources by providing direct protection and management. Cultural sites within refuge boundaries would be protected against vandalism. Our environmental education and interpretation programs will continue to promote public understanding and appreciation of the area's rich cultural resources, and we will conduct appropriate surveys on tracts that need them. Alternative B proposes several initiatives, including the development of an ambitious, refuge-wide inventory and monitoring plan, the implementation of several surveys following national and regional protocols, the development of GIS, and the development and funding of several research endeavors.

The National Historic Preservation Act of 1966 (P.L. 89–665) requires that the State Historic Preservation Officer (SHPO) review any actions by a federal agency that may impact archaeological or historic resources, and that any impacts identified be avoided or mitigated. Service policy is to preserve those resources in the public trust, avoiding impacts whenever possible.

The Archaeological Resources Protection Act of 1979 (P.L.96–95; 16 USC 470aa-mm), provides a strict application and permitting process for scientists who wish to conduct archaeological research on federal property, and mandates severe criminal and civil penalties for vandalism or the unauthorized collection of material from sites on federal lands or waters.

Socioeconomic Impacts

Eastern Shore communities have enjoyed a long-standing relationship with their forests. Initially, they exploited forests as sources of building materials and fuel, and the expanding agricultural economy hastened the clearing of forests until the mid-1800s. Forest acreage stabilized at that low point and the trend slowly reversed, steadily gaining acreage until the turn of the 20th century. The Great Depression set in motion a rapid increase in forested acreage that lasted until the agricultural boom of the mid-1960s, which reduced some previous gains. That trend eventually subsided, and forest acreage has remained relatively stable for the past few decades. Today, the Lower Shore is covered with 5 percent more forest than in 1900.

During those periods of change, the wise use of the forests steadily improved, and an entire industry soon evolved around that resource. Forest science improved with time, and the professional forester emerged as a champion of sustainable management. With a sustainable resource serving demands for timber, the manufacture of forest products became a specialized profession, and indeed, a way of life that was passed on to succeeding generations. From the very beginning of settlement, these forests have remained an integral part of the Eastern Shore economy and culture.

Today, the forest industry employs an estimated 14,000 persons statewide; approximately 5,000 jobs rely directly on the wood harvested in Maryland. More than 8 percent of all manufacturing jobs in Maryland are found in the forest industry. Its output values statewide are \$2 billion annually, and contribute more than

\$750 million in value-added business income, property income, and taxes. The forest industry is highly integrated, generating economic activity from the growth and management of forests, timber harvesting, paper and lumber production, and the secondary manufacture of final goods. The Port of Baltimore claims to handle the greatest tonnage of forest products of any East Coast port.

Altering the production and supply of forest products will profoundly affect the economy. Every 10-percent decline in output value of the industry would result in a loss of nearly 1,400 jobs and more than \$76 million of value-added contributions statewide. If subjected to that 10-percent decline, the Eastern Shore would lose an estimated 143 jobs and more than \$6.2 million of value-added contributions. Its forest industry supports more than 2,000 jobs, and each forest industry job creates about one more elsewhere in the economy. In many Eastern Shore counties, forest products manufacture is considered a "basic industry," which by definition produces goods and services that are exported out of the area and bring new dollars into the community. One such county is Wicomico. The sectors of logging, forest management, and primary processing of forest products provide employment for more than 1,100 people on the Eastern Shore.

Dorchester County is one of the leading employers in Maryland's manufacturing sector. The forest products industry supports 8.5 percent of those manufacturing jobs. The average annual wage for the estimated 177 forest products workers in Dorchester County is a robust \$58,000, which compares most favorably with the overall manufacturing average wage of \$33,000. In Wicomico County, 7.6 percent of its manufacturing base works in the forest products sector (659 employees), earning an average wage of \$27,000 (compared to an average manufacturing wage of \$35,000). Dorchester and Wicomico counties have a significant number of logging companies and primary wood processing facilities. Although manufacturing on the whole is in decline, the forest products sector remains relatively stable, which speaks to the fact that the forest products industry is growing in importance for the retention of manufacturing employment.

The proposed expansion of the refuge complex in this plan will very likely result in curtailing the supply of forest products. Reducing the availability of timber will impact not just the mills and loggers in Dorchester and Wicomico counties, but will also be felt by the industry across the whole region. The Eastern Shore is effectively an island, bounded on the west and south by the Chesapeake Bay, on the east by the ocean, and on the north by a highly urbanized area. The industry cannot outsource its raw material needs beyond those geographic boundaries of the peninsula. As timber is removed from the supply base, the industry will necessarily increase harvesting pressure on the base remaining. As local supplies draw down, the mills most affected will expand their procurement into the territory of competing mills, thus perpetuating an escalating demand on the mature forests that remain. As local supplies dwindle, the mills will seek timber from greater and greater distances on the peninsula, hauling costs will increase, administrative costs will rise, and the risks of buying timber will increase. Ultimately, weaker mills will be forced to close. That process is already underway, as our CCP points out (page 4–41).

The real danger in that scenario is failing to see the damage caused by incremental losses. A relatively small loss from the timber supply likely will not force the immediate closure of an entire mill, but it will create an unseen, incipient stress that will gradually erode the infrastructure. Once the supply, support, and intellect of the industry have left an area, they are extremely difficult to recreate.

That fact is well understood by the State of Maryland. The overriding management philosophy for the recently acquired Chesapeake Forest Lands is to provide the needed commodity values (i.e., timber) from those lands, sustainably, without sacrificing the non-commodity values also derived (e.g., habitat or recreation). In 2004, Governor Ehrlich signed Executive Order 01.01.2004.21 at a ceremony on the Eastern Shore to replicate that approach on all DNR-owned forest land. To further accentuate its commitment to the sustainability of the resource, the state is aggressively pursuing third-party environmental certification on its forests from both of the leading international certifying bodies. The private sector is also moving gradually toward certification, in some cases building on its participation in the existing Tree Farm Program.

That commitment to sustainable forest management is much more comprehensive than simply preserving economies and cultures for future generations. It sustains the infrastructure that provides the management services. Without those services, which depend on adequate markets, we have a toolbox with no tools. We need the service providers supported by the forest industry to perform the work necessary for managing the forests over the long term. If the Blackwater Game Refuge plans to harvest timber as part of its proposed plan, it will also need these service providers (Kirk Rogers, pers. comm. July 28, 2005).

As previously mentioned, much of the forested land now part of the refuge complex once was managed for the production of forest products, supplying them to families and many small, locally owned mills as well as large, regional corporations. Some of the Blackwater refuge land was owned and managed by both large-and small-scale forest product corporations such as Chesapeake Forest Products and Spicer Corporation. They supplied forest products throughout Maryland and many other states. Once that land was protected by the Service, it was taken out of timber production, and no longer provided the forest products that helped keep small, local mills in business. Performing wildlife-oriented forest habitat management on Blackwater refuge would result in the sale of forest products and additional, indirect, increased revenues for the local economy. The sale of the timber would also eliminate the need to use refuge complex staff and funding to implement forest management prescriptions.

Implementing manual methods of release and weed control is also very effective in achieving habitat management objectives, and will create a source of employment that will contribute to the local economy or provide for volunteer opportunities. Many of those objectives also may be achieved through a firewood cutting program we will develop later.

The effects on hydrologic conditions on off-refuge land would be the most significant and sensitive sociological impact of hydrologic restoration related to Atlantic white cedar management on the proposed Nanticoke protection area. Eliminating or restricting drainage ways on the refuge could result in flooding on adjacent agricultural and residential land and tree plantations. We would assess and closely monitor the effects of on-refuge restoration so that off-refuge impacts are eliminated or mitigated. The use of water control structures may be necessary to control water levels and reduce the potential flooding of private properties.

The sociological aspects of forest habitat management programs are complex, and vary widely across geographic boundaries. Although people in rural America appreciate and promote those activities, particularly the cutting of trees, people from urban settings or backgrounds are less likely view them the same way. In many cases, urban Americans see and hear only the negative aspects of forest management, and associate those programs on refuges with the destruction of wildlife and the commercialization of the resource, rather than with the objectives of wildlife habitat and forest health improvement and other environmental benefits.

Despite the immense potential of managing forests for diverse public and equally diverse wildlife populations, pleasing all interest groups and individuals is impossible. Some would object to management in any form, and arguing against the pursuit of natural values would be difficult. Realistically, few areas remain where the protection of the habitat alone is the only necessary management option. That is especially true where man has already caused significant impacts on the landscape, as at Blackwater refuge and the Nanticoke protection area. Most of their habitats are degraded, are far from natural, and suffer a growing inability to support the historical abundance and diversity of fauna that is now necessary and even expected. Environmental education and interpretation programs about the refuge forest management program would address many of those concerns and issues.

We would reduce potential conflicts while educating a more knowledgeable public by providing a well-staffed visitor center on the proposed Nanticoke protection area with the potential to reach more than 6 million visitors a year; publishing a film, interpretation tour guides and informative leaflets about the area; providing proper signing; and printing maps and brochures that convey the mission and goals of the area

and better understanding of its proposed management. We would improve our good association with the community, and help establish a better understanding of the area, its mission, goals, wildlife and wildlife habitats, by developing programs, events, and activities with community organizations, the tourism industry, schools, local businesses, news media, congressional entities, constituent groups, and state and local government agencies.

Public interest has been steadily increasing in observing and photographing wildlife while walking, biking, canoeing, or driving. Along with the increased opportunities for wildlife observation at the Nanticoke protection area, more facilities are provided, better relationships with the community are developed, and more visitors to the area are welcomed. The communities around the area would benefit from the increased use of their service stations, facilities, lodging, and restaurants. If the current \$15 million a year in benefits to the local economy is any indication of what can be expected at the proposed area, those activities would significantly increase the potential for ecotourism-related businesses.

Dorchester, Wicomico, and Somerset counties are developing tourism management plans that will increase and facilitate ecotourism. Developing environmental education programs with other educational institutions and groups in the community would create a good working relationship with the community and public, increasing their interest in working with Blackwater refuge to help develop ecotourism. Working with the respective county tourism offices and the community to increase ecotourism would help increase the economy of the local area even more.

Public interest has been steadily increasing in observing wildlife while walking, biking, canoeing, and driving throughout the area. Refuge programs would add some structure and regulation to those activities, which would become more compatible with wildlife and sensitive habitats. For example, after the Blackwater refuge was listed in the Maryland biking travel guides, the number of bicyclists at the refuge increased from 842 in 1992 to 3,275 in 1995. Publications by Dorchester County advertising Blackwater's trails, its Wildlife Drive and visitor center have also attracted more visitors seeking opportunities to observe wildlife at the refuge. According to the Dorchester County Department of Tourism, Blackwater refuge visitors spend an estimated \$15 million annually. The refuge is the most utilized tourist attraction in Dorchester County. With the new Dorchester County Tourism Plan and the nearly completed construction of a new Hyatt complex in Cambridge, MD, the county expects to attract many more visitors. The encouragement of bus tours to Dorchester County has already increased the number of bus tours to Blackwater refuge. Increased visitation at these refuges would positively impact the local economy and, if properly planned, would not adversely impact wildlife.

As more people become aware of the boating, fishing, and crabbing opportunities available in Dorchester, Wicomico, and Somerset counties, more people would visit the refuges. Canoeing is becoming a very popular recreation that enables visitors to fish and view wildlife. Many visitors are requesting canoe trail maps, navigational maps, leaflets on fishing and canoeing, canoe tours, rentals, and directions for observing wildlife from canoes. A recent seminar on recreational activities in Dorchester County in preparation for the construction of the Hyatt complex also indicated a need for canoe rentals, canoe tours and guides. That demand has encouraged the establishment of at least one canoe rental company, although previously there were none in the county. In partnership with the State of Maryland and Dorchester County, we would construct a new canoe ramp and associated parking area at Route 335 to accommodate safe parking and launching from the state highway into the upper Blackwater River (waters unregulated by the refuge). Those facilities would encourage more visitors to stay overnight in the county, rent canoes, buy fishing licenses and equipment, dine at restaurants, and shop at other facilities, thus increasing the economy of the county.

With the exception of waterfront property, real estate values for the region dropped during the late 1980s and 1990s. That trend has reversed in the last several years, with an increase in recent economic activity and the desire for second homes on the Eastern Shore. The property values of land with the potential for waterfront residential and commercial development have been increasing between 6 percent and 20 percent

annually. Statewide, the values of agricultural land increased about 10 percent between 1996 and 2000 (Source: Maryland Agricultural Statistics webpage 2000). The value of forest land has also increased moderately, but a troubling statistic is the continuing trend to smaller and smaller ownership patterns (Source: Maryland Forest Service webpage 2000).

Land protection, particularly by acquiring land by purchasing either fee title or conservation easement, is unlikely to adversely affect land values in that county or the region. The demand for residential living and employment or retirement opportunities in the region will continue, with or without the additional acreage enrolled in the land protection strategy we envision.

Caputo (1979) has identified five economic benefits associated with open space preservation (e.g., parks, refuges, recreation areas). First, land adjacent to public parks or natural areas was found to increase in value faster than the respective municipality average. The values and appreciation of residential property immediately adjacent to state or federal wildlife management areas or refuges here in the Northeast generally increase 20 to 30 percent. However, the actual percentage increase will vary from town to town and state to state. A survey of 15 lakes and reservoirs in Pennsylvania evaluated impact on local land values (EPP 1971), and showed that the total taxable land value of an area that develops recreational sites will increase more rapidly over time than comparable taxable land that does not develop recreational resources. The lakes the survey studied range from 160 acres in two state parks to more than 21,000 acres in the Corps of Engineers Kinzua Reservoir. As property values increase, assessments increase, and more property tax revenues are realized.

Some problems in our land protection could arise because of the roll-back of tax exemptions. The counties would have to make formal decisions on a case-by-case basis, guided by state law. However, preliminary inquiries by the Service have indicated that this would not be a problem, as land use would remain essentially the same. Revenue sharing payments for the counties would compare favorably with or exceed current tax revenues.

Because of community concerns about the removal of land from agricultural production, the refuge complex long ago initiated an approach that will maintain existing land uses that conform to a compatibility determination. That policy will extend to most agricultural land in the protection areas (the next paragraph notes exceptions). Likewise, when feasible and appropriate, most prior-converted wetlands will be developed into moist-soil impoundment units or otherwise managed for agricultural production to benefit migrating and wintering waterfowl. Landowners always have the option of maintaining land in wildlife-compatible uses, including certain farming and forestry operations. Implementing our land protection strategy will not significantly affect agricultural production and farm income statewide or on the Eastern Shore.

Open space, farms and wild lands are declining resources in the region and nationwide. Some areas can be kept usable for wildlife and recreation, but the creation of new, wild, open space in the true sense is impossible. Under Service protection, present land-use patterns would undergo little or no change. Some prior-converted wetlands will likely be allowed to revert to palustrine forest to prevent erosion into adjacent riverine and aquatic systems and assist in many of our goals and objectives. Agricultural practices on some land will be modified to provide feeding and sheltering areas for migratory birds, under programs and strategies similar to those already employed on the Blackwater refuge. Protection monies can be used to purchase conservation easements from landowners who are interested in continuing their current use while selling their development rights. Such a program would allow former landowners or tenant farmers to continue raising crops on protected land or parts of it while also providing benefits for wildlife. Also possible are lease-back agreements, which would give the seller or others who rent land an opportunity to continue using it for crop production. Agricultural land could remain in production, thus helping maintain the livelihood of the farmers. The farmers or landowners would have the first refusal option to enter into a lease-back agreement, while the tenant or party renting the land would be given the second option.